UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
ONE CONGRESS STREET, SUITE 1100 (HBT)
BOSTON, MASSACHUSETTS 02114-2023

April 14, 1999

Mr. Emil Klawitter (eeklawitter@efdnorth.navfac.navy.mil)
Northern Division, Naval Facilities Engineering Command
Code 1823/EK
10 Industrial Highway, Mailstop 82
Lester, PA 19113-2090

Monitoring Event 13 Final Report for Site 9 at Naval Air Station, Brunswick, Maine

Dear Mr. Klawitter:

Thank you for the above report of results from the November 1998 sampling event which was prepared for the Navy by EA Engineering, Science and Technology, inc.

We have several comments below regarding the sampling event proper for your consideration. Our formal comments to the monitoring results, long term trends and recommendations for further action will be in our comments to the draft 1998 annual report, which was received today. For your information are also several observations to the attached graphs of trends at site 9.

Comments to Monitoring Event 13

1. The addition of elevation data from upgradient NEX wells improved understanding groundwater flow. Addition of data from MW-NASB-227 in event 14 should further refine the flow gradients.

2. All TCE and PCE detections were caused by either trip or method blank detections in the range of 1-2 ppb. This doesn't seem to be an issue as the primary COC's are vinyl chloride and 1,2-DCE, which have both been detected an order of magnitude higher.

3. The reported detection limit for vinyl chloride is 2 ppb. As discussed at the meeting on 4/6/99, for the final LTMP to monitor natural attenuation toward the MEG of 0.15 ppb, lower detection limit is needed. Per appendix C, the lab's MDL for vinyl chloride is closer, at 0.79 ppb.

4. No sediment samples were taken, per the meeting on 4/6/99 a sediment sample will be taken at either SW-010 or LT-901.

5. Table 6. Several wells that indicated TCE or PCE were noted as false posistives due to detections in the trip blank. Is there a qualifier that could denote this on the table? Affected wells for TCE were MW-69 (duplicate), 74 and 75. Wells with PCE were MW-74 and 227.

6. Selecting MW-69 as the duplicate sample resulted in an "approximate value" because precision criteria weren't met. However, the two results are close enough that we have high confidence in the relative concentrations. In our graphs, we've averaged the two results. We recommend continuing to use MW-69 as the duplicate sample as long at it has the highest concentrations.

7. Section 1.2. During the last event in July 1998, it was noted that the retention ponds were drained for cleaning under the Air Station's NPDES program. What was the relative upper pond level this event (the stream gaging location was dry). The lower pond level was gaged at SG-2.

8. Appendix A.2. Why was MW-NASB-71 purged at 1..5 l/min vice the 0.2-0.3 l/min that the other wells were purged at for the low flow sampling? A method spike and method spike duplicate sample were collected here.

9. Appendix B. Note that MW-NASB-227 was screened just above the clay layer, an optimum position for monitoring for VOC's.

Observations to Monitoring Event 13 Results; For Your Information Only-Please Refer to Charts
(Charts are with the mailed hard copies only)

1. Groundwater Gradients. The gradient across the main flow direction of the site (from MW-NASB-80 to 72) is in the range it was before the retention ponds and a least mean squares regression line is nearly level across the whole period. The other two gradients aren't good measures because they plot data across the retention ponds. However, the relative northward gradient on the southern side of the upper retention pond has remained steady as well. It is also steeper than the main gradient by about double.

2. VOC trends.

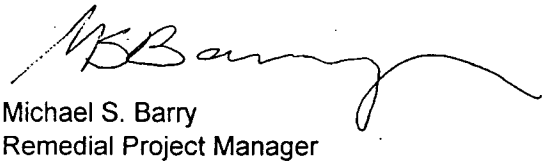
   a. No concentration trends seem clear, but a trend of parent/daughter decay specie may be developing but we will defer further analysis until the 1998 annual report is available, but data from more future events will probably be needed for any meaningful analysis. Please see enclosed charts for your information.

   b. The "plume" seems to be defined by a "northern" and "southern' lobe. There were some individual changes, but overall levels increased back to about the level of event 11.

3. Surface Water. Noted than no VOC's were detected at SW-010 or LT-901 on this event.

We look forward to resolving site 9 through the signing the Record of Decision and developing the Long Term Monitoring Plan later this year. If you have any questions or concerns, please call me at 617-918-1344 email me at barry.michael@epa.gov.

Sincerely,



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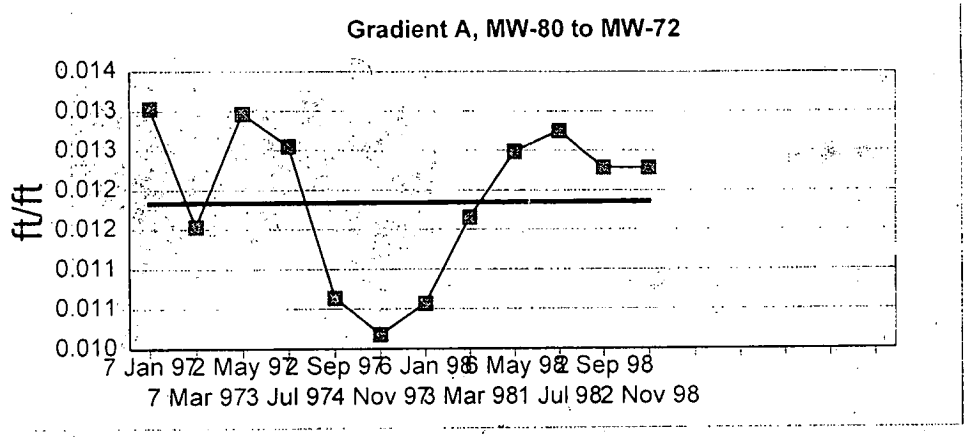
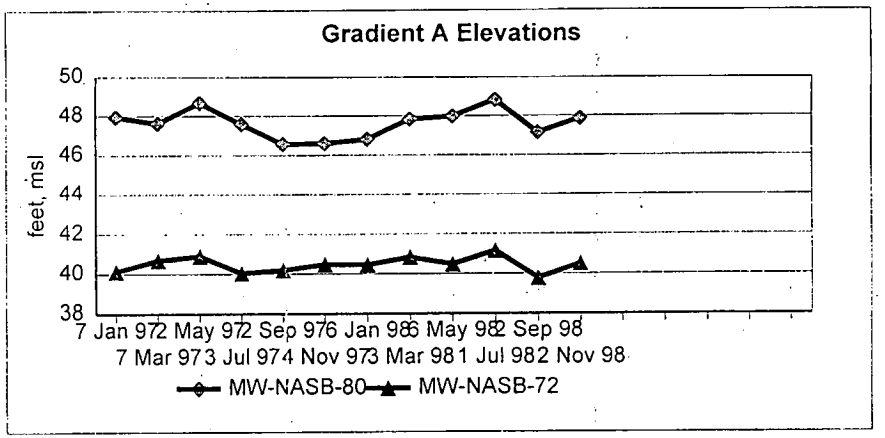
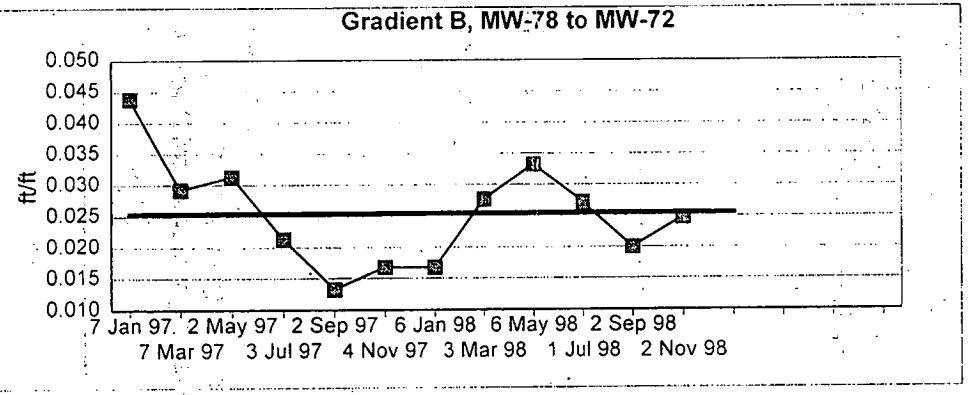
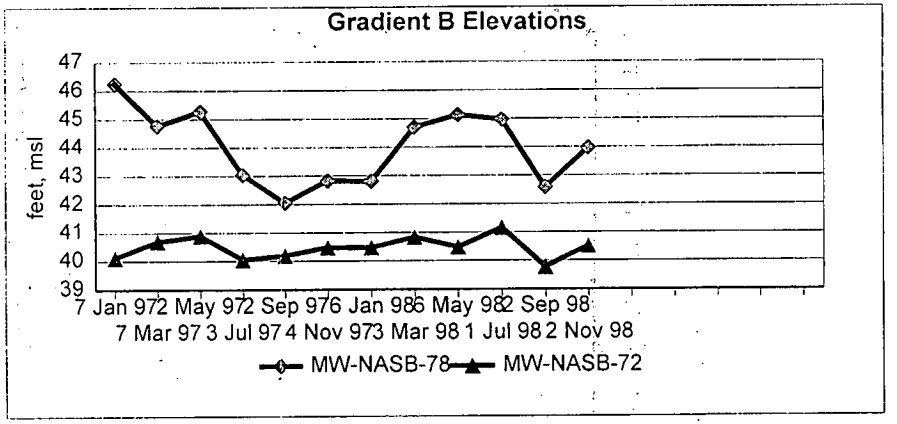
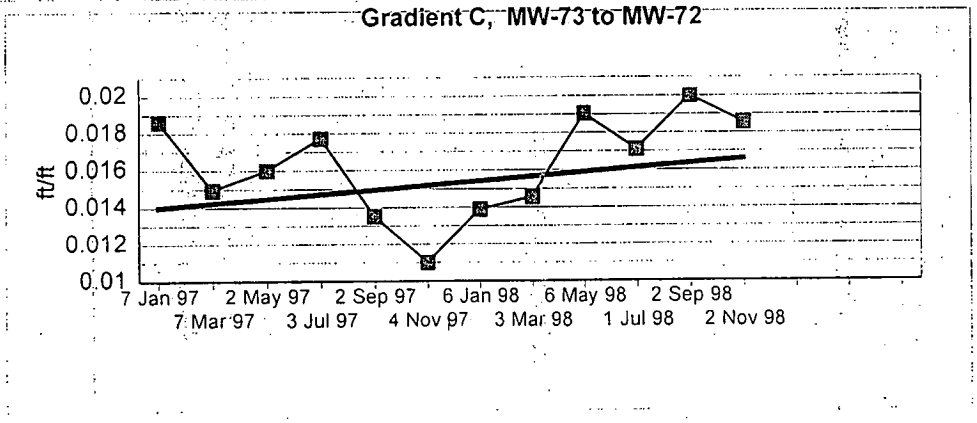
NAS Brunswick Site 9 Groundwater Elevation Data

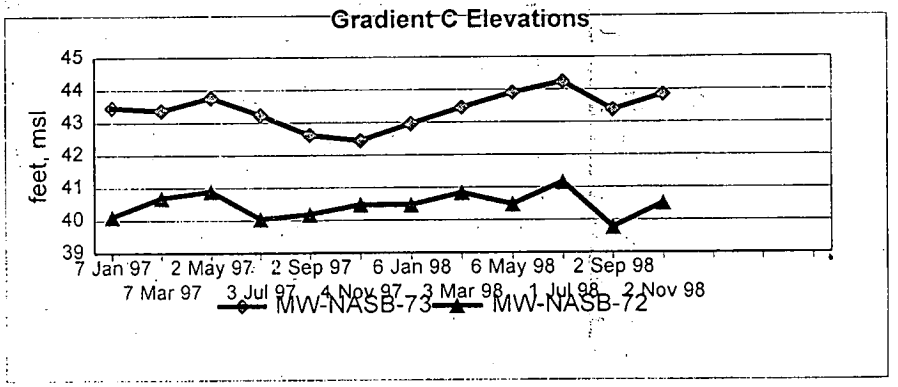


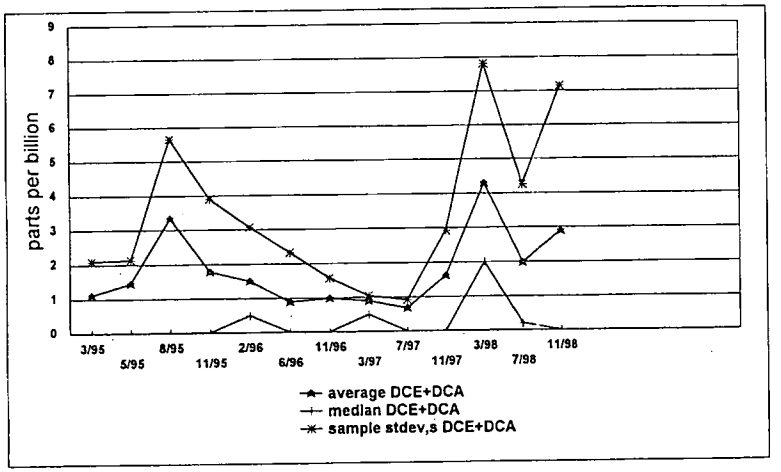


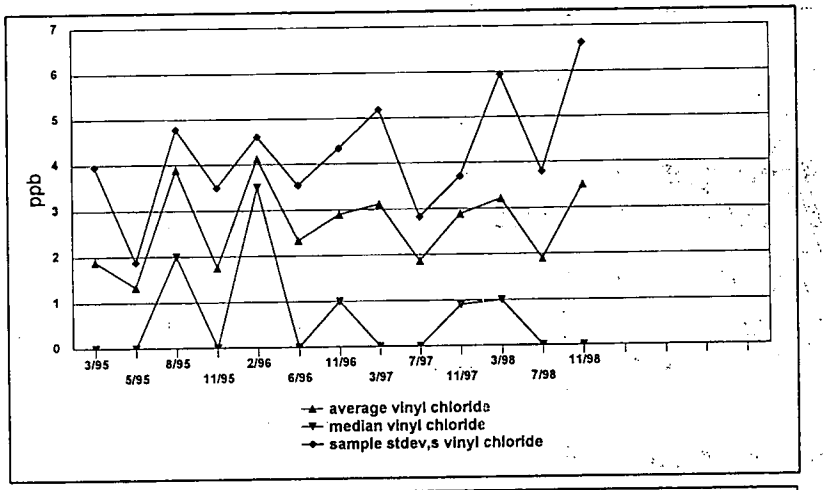


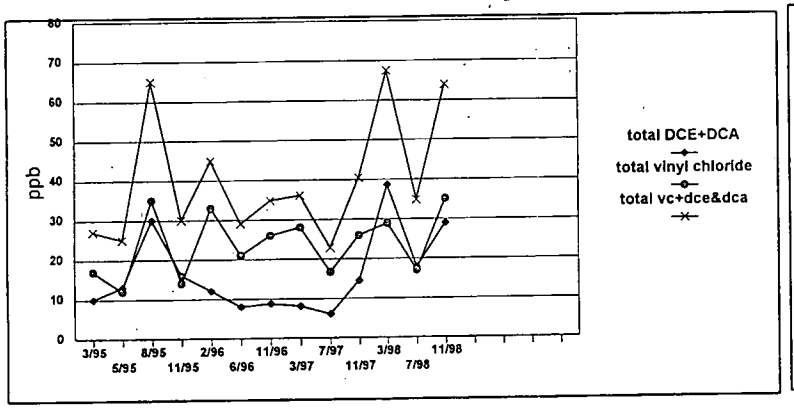


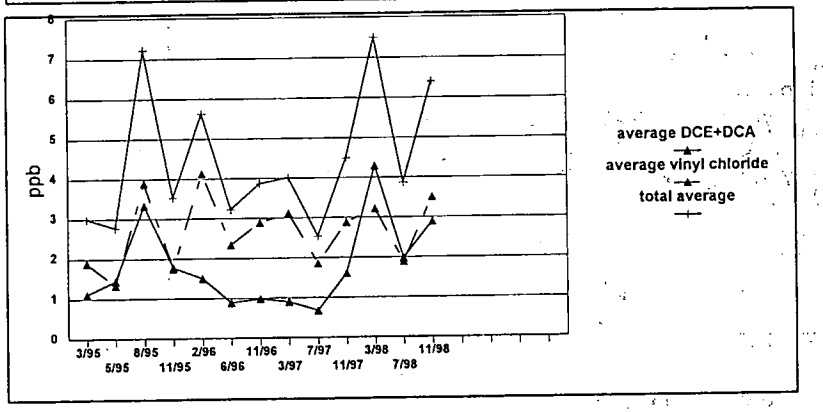


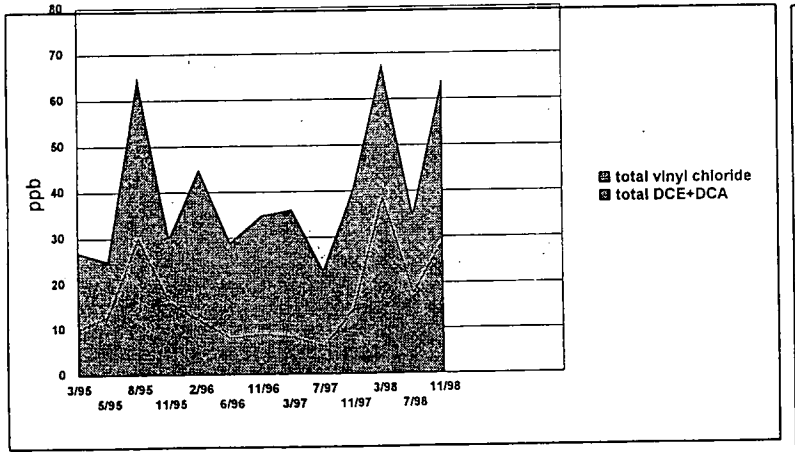


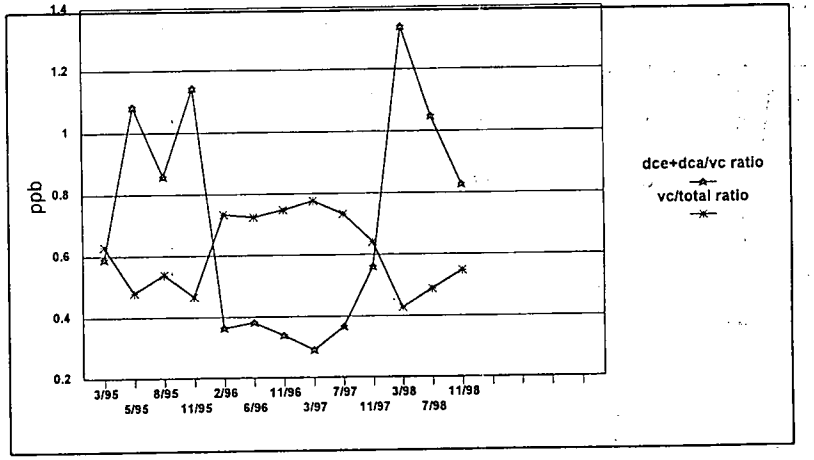

parts per billion
average DCE+DCA
median DCE+DCA
sample stdev,s DCE+DCA


ppb
average vinyl chloride
median vinyl chloride
sample stdev,s vinyl chloride


ppb
total DCE+DCA
total vinyl chloride
total vc+dce&dca


ppb
average DCE+DCA
average vinyl chloride
total average


ppb
total vinyl chloride
total DCE+DCA


ppb
dce+dca/vc ratio
vc/total ratio